AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A system for regulating communications between a plurality of transmitters and a receiver, comprising:

a plurality of cells, wherein each cell controls communications from a transmitter in the plurality of transmitters to the receiver;

wherein the plurality of cells are arranged in a token ring that regulates communications from the plurality of transmitters to the receiver;

wherein the presence of a token within a token ring cell indicates that the corresponding transmitter may communicate with the receiver; and

~~wherein a transmitter in the plurality of transmitters is coupled with an output of an AND gate, a first input of the AND gate is asserted when the transmitter is allowed to transmit based on the presence of the token, a second input of the AND gate is asserted when the receiver is ready to receive from the transmitter, and the transmitter is allowed to transmit when the output of the AND gate is asserted~~

an AND gate in the cell with an output and two inputs, wherein:

a first input of the AND gate is coupled to a signal that is asserted when the cell has the token, has received a request from a transmitter to transmit to the receiver, and has received an address for the receiver from the transmitter,

a second input of the AND gate is coupled to a signal that is asserted by the receiver when the receiver is ready to receive data, and

the output of the AND gate is coupled to an enable input of the transmitter to enable the transmitter to transmit data to the cell for forwarding to the receiver.

2. (Original) The system of claim 1, further comprising:

a plurality of receivers; and

a plurality of token rings, wherein each token ring passes a corresponding token among token ring cells that control communications from the plurality of transmitters to a receiver corresponding to the token ring.

3. (Previously presented) The system of claim 2, wherein the plurality of cells are arranged in a grid wherein a row corresponds to a transmitter and a column corresponds to a receiver.

4. (Original) The system of claim 1, wherein the communications can include one of:

an electrical signal;

a mechanical signal; and

an optical signal.

5. (Original) The system of claim 1, wherein each cell is configured to receive a request signal from a corresponding transmitter, and in response to the request signal, is configured to issue an acknowledgement signal to the corresponding transmitter which allows the corresponding transmitter to begin transmitting if the cell has the token.

6. (Original) The system of claim 5, wherein each transmitter further comprises a reset mechanism that is configured to release the clearance to communicate with the receiver by resetting the request signal.

7. (Original) The system of claim 6, wherein the system further comprises an acknowledgement mechanism configured to confirm the release of the clearance by resetting the acknowledgement signal.

8. (Original) The system of claim 1, further comprising an initialization mechanism configured to initialize the single token in the token ring.

9. (Original) The system of claim 1, wherein the system operates asynchronously.

10. (Original) The system of claim 1, wherein the system additionally comprises a flow control mechanism configured to selectively limit the communications from the transmitter to the receiver at the request of the receiver.

11. (Currently Amended) A method for regulating communications between a plurality of transmitters and a receiver, comprising:

receiving a request signal from a transmitter at a cell in a plurality of cells requesting to communicate with the receiver;

wherein the plurality of cells are arranged in a token ring that regulates communications from the plurality of transmitters to the receiver; and

in response to the request signal, issuing an acknowledgement signal to the transmitter which allows the transmitter to begin transmitting if the presence of a token is detected within the cell, wherein the acknowledgement signal is not issued unless the receiver has asserted an enabling signal to the cell that indicates that the receiver is ready to receive data.

~~wherein a transmitter in the plurality of transmitters is coupled with an output of an AND gate, a first input of the AND gate is asserted when the transmitter is allowed to transmit based on the presence of the token, a second~~

~~input of the AND gate is asserted when the receiver is ready to receive from the transmitter, and the transmitter is allowed to transmit when the output of the AND gate is asserted.~~

12. (Original) The method of claim 11, wherein the plurality of cells include a plurality of token rings, wherein each token ring passes a corresponding token among token ring cells that control communications from the plurality of transmitters to a receiver corresponding to the token ring.

13. (Original) The method of claim 11, wherein a plurality of cells that regulate communications between the transmitters and receivers are arranged in a grid wherein a row corresponds to a transmitter and a column corresponds to a receiver.

14. (Original) The method of claim 11, wherein the communications can include one of:

an electrical signal;

a mechanical signal; and

an optical signal.

15. (Original) The method of claim 11, further comprising revoking the permission for the transmitter to communicate with the receiver when the transmitter resets the request signal.

16. (Original) The method of claim 15, further comprising resetting the acknowledgement signal to confirm the revocation of the permission for the transmitter to communicate with the receiver.

17. (Original) The method of claim 11, further comprising initializing the token in the token ring.

18. (Original) The method of claim 11, wherein the system operates asynchronously.

19. (Original) The method of claim 11, further comprising controlling the flow of communications by selectively limiting the communications from the transmitter to the receiver at the request of the receiver.

20. (Currently Amended) A multi-processor system, comprising:

a plurality of processors;

a plurality of transmitters associated with the processors;

a plurality of receivers associated with the plurality of processors;

a plurality of cells, wherein each cell controls communications from a transmitter in the plurality of transmitters to a receiver;

wherein the plurality of cells are arranged in a token ring that regulates communications from the plurality of transmitters to a receiver;

wherein the presence of a token within a token ring cell indicates that the corresponding transmitter may communicate with the receiver; and

~~wherein a transmitter in the plurality of transmitters is coupled with an output of an AND gate, a first input of the AND gate is asserted when the transmitter is allowed to transmit based on the presence of the token, a second input of the AND gate is asserted when the receiver is ready to receive from the transmitter, and the transmitter is allowed to transmit when the output of the AND gate is asserted.~~

an AND gate in the cell with an output and two inputs, wherein:

a first input of the AND gate is coupled to a signal that is asserted when the cell has the token, has received a request from a transmitter to

transmit to the receiver, and has received an address for the receiver from the transmitter,

a second input of the AND gate is coupled to a signal that is asserted by the receiver when the receiver is ready to receive data, and

the output of the AND gate is coupled to an enable input of the transmitter to enable the transmitter to transmit data to the cell for forwarding to the receiver.